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ABSTRACT

This pamphlet describes the role of teachers in assessing the quality and utility of research. Research is the backbone of educational theory and practice, forming the basis of what is taught and how it is taught. It is important that teachers remember that: not all research is done well; abstracts and newspaper/magazine reports about research do not contain enough information to allow research to be evaluated; and biases and stereotypic ideas can affect research and results. Bias may be more subtle today than in the past, but a look at current research reveals that biases about women and people of color still influence researchers. Research done with males is often applied to females; research done with whites is often applied to people of color. Myths about research and ways teachers can overcome these myths are outlined. In evaluating research, the teacher must ask if: (1) the opinions or biases of the researchers are evident; (2) the researchers use different terms depending on the race and sex of those being studied; (3) the study describes who is being studied; (4) the tests are fair; (5) the results are overgeneralized; (6) similarities and differences of members of the study population are reported; and (7) the conclusions have more to do with the researchers' expectations than with the research results. Suggestions for reducing bias in the literature are provided. (SLD)

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Using, Abusing, and Assessing Research

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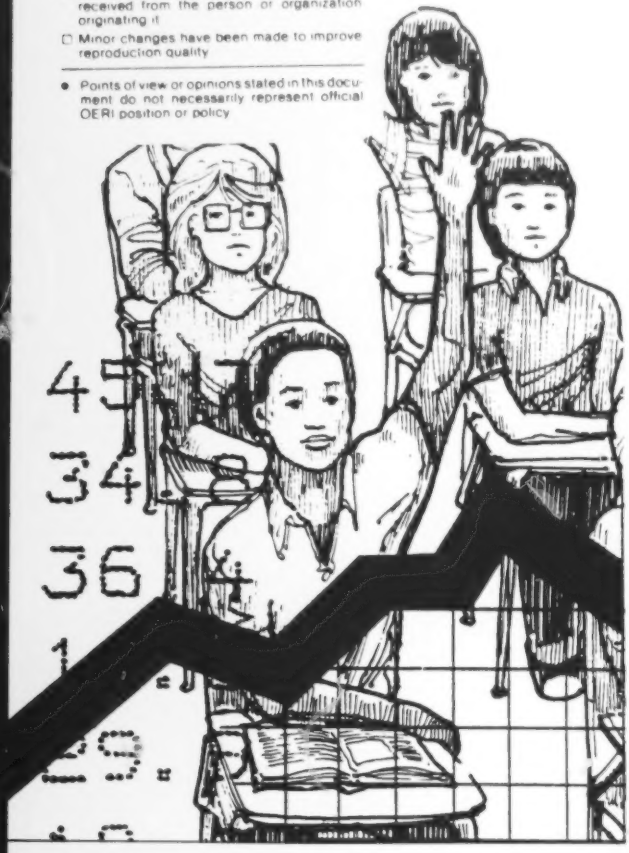

A Guide for Teachers

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Educational Research: Why Should Teachers Care?

Research is the backbone of educational theory and practice. It is the basis of

- what we teach
- how we teach
- how we work with students
- the books and materials we use

Through research, many things of value to teachers have been established, such as the following:

- Class size is important
- Students in very small classes do noticeably better than students in classes of "average" size, while students in large classes do slightly worse
- Self-confidence plays an important role in student math achievement and in students' choice of courses
- A good preschool experience has a strong positive influence on the long-term development of children at risk, particularly boys

Research Caveats

It is important that teachers use research; however, it is equally important to remember that

- not all research is done well and some research may be wrong
- abstracts or newspaper and magazine reports about research results do not include enough information to allow the research to be evaluated
- biases and stereotypic ideas can affect research and research results

Bias and Past Research

While research can be a powerful tool for improving education, it can be, and has been, used to perpetuate inequality. The influence of racism and sexism on the research of the past can be seen in the following "research" conclusions:

> [Blacks] in spite of being bereft of a moral sense do have a great compensating gift. . . . [T]hey all sing.
>
> *–A. B. Evarts, 1914*

> The woman who uses her brain loses her mammary function first and has little hope to be other than a moral and medical freak.
>
> *–G. Stanley Hall, 1905*

Bias and Today's Research

Today bias and its impact on research may be more subtle than in the past, but a look at current research conclusions finds that biases about people of color and women of all races still exist and influence researchers. For example, an analysis of studies of African Americans found that most researchers (82 percent) "blamed the victim," concluding that any differences experienced by African Americans were due to the shortcomings of the individuals rather than other possible explanations, such as racism or other societal factors. Programs based on such biased conclusions will be inherently flawed.

> Sex differences in achievement and in attitudes toward mathematics result from superior male mathematical ability.

This conclusion, from a well-publicized 1980 study by Camilla Benbow and Julian Stanley, was not based on the results of tests for genetic differences, including those related to sex. The conclusion owed more to the authors' opinions about boys' "natural" math abilities than it did to the research. Such conclusions can have a major impact, affecting, for example, educators' willingness to encourage girls to take advanced math courses.

Even today research done on males is generally applied to males and females, while that done on whites is applied to people of color as well as whites.

Research Myths and Realities

I. I could never understand research.

With a little knowledge of statistics, teachers can use the same problem-solving and critical-thinking skills that they teach students, to understand and assess most research.

II. If it's published, it's true.

The publishing process weeds out some, but not all, bad research. Reviewers or editors may not catch all of a study's flaws, and they may approve inaccurate research for publication.

III. Researchers are "objective," not influenced by their view of the world or by societal attitudes.

It is not easy to prevent our likes, aversions, hopes, and fears from affecting our conclusions. Researchers, like the rest of us, are influenced by racism and by societal views of "appropriate" roles for women and men.

IV. The beginning and end are the only important parts of a research study.

While the abstract and conclusions are the easiest parts of a study to read (and are often the most interesting), the rest is important. We can evaluate a study only if we read the whole thing.

V. Sex and race differences do exist in education.

Race and sex differences do exist in education; however, these differences are much smaller than differences among people of the same race or of the same sex.

Evaluating Research: Some Questions to Ask

1. Are the authors' opinions or biases obvious as you read the study? For example, research designed to determine the *negative* influence of mothers' employment on children's achievement is clearly based on preconceived notions.

2. Do the authors use different terms, depending on the race or sex of those being studied? For example, if studies of father absence are labeled "father absence" while studies of mother absence are labeled "maternal deprivation," bias is present.

3. Does the study describe who is being studied, including their race and sex?

4. Are the tests used "fair"? Does the study indicate whether the tests were developed and tested with females and males from a variety of racial backgrounds?

5. Are the results of the study applied only to people like those studied or are they overgeneralized to include others? For instance, are people of color included in conclusions when only whites were studied?

6. Are similarities as well as differences reported about females and males and people from different races?

7. Do the conclusions have more to do with the authors' expectations than with the research results?

Reducing Bias in Research: What You Can Do

1. Don't make decisions based on what "research says" until you evaluate the study for general accuracy and bias.

2. Read the middle as well as the beginning and end of research studies.

3. Use the same criteria to evaluate studies whose results you feel must be right as you do to evaluate studies whose results you feel can't be right.

4. Don't repeat research "facts" before you check the accuracy of those facts. Headlines—indeed, any media coverage—rarely present the full story.

5. Recognize your own biases and think about ways your biases influence you.

6. Talk with your students about the influences bias may have on them.

7. Make other educators aware of bias in research.

8. If you find biased research, write to the study's publisher and authors to make them aware of the bias.

9. Encourage your professional organizations to develop and use guidelines to evaluate and reduce bias in research.

For More Information

Campbell, P. "Racism and Sexism in Research Methods." *Encyclopedia of Educational Research.* New York: Macmillan, 1983.

Ehrenreich, B., and D. English. *For Her Own Good.* Garden City, N.Y.: Anchor Books, 1979.

Thomas, A., and S. Sillen. *Racism and Psychiatry.* New York: Brunner/Mazel, 1972.

This brochure is one of a series written to acquaint people with bias in research. The brochures and *The Hidden Discriminator: Sex and Race Bias in Educational Research*, a nontechnical monograph on bias in research, are available from the Women's Educational Equity Act Publishing Center, Education Development Center, 55 Chapel Street, Newton, Mass. 02160, 800-225-3088 (in Mass. call 617-969-7100).

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